

Protecting the Environment With the Power of the Market

For nearly 20 years, a line was clearly drawn in the sand of eco-politics. On one side were environmentalists, who wanted pollution cleaned up and ecosystems protected no matter what the cost. To them, the corporate world was bent on raping the earth to satisfy its greed, and capitalism was to blame for all environmental damage. On the other side were businessmen and others who saw burgeoning environmental regulations as obstacles to economic growth. In their eyes, environmental protection was an enormous financial drain, and the regulation-happy environmentalists wanted nothing less than the end of industrial society.

By the late 1980s, however, a few farsighted types on both sides started crossing the line, erasing it little by little with each defection. Suddenly, environmentalists were proposing regulations that relied on the most basic tenets of capitalism to protect the world's natural resources, and some corporate leaders were saying they could live with pollution control and resource conservation. "Both sides discovered that there was a common ground, that sound economics and sound environmental practices could go hand in hand," says Robert Costanza of the University of Maryland's Institute for Ecological Economics, an early proponent of this meeting of the minds.

The real beneficiary of these shifting political sands could be the environment. "We're finally getting past the debate about whose position is morally superior and moving on to a point where we will accomplish real reductions in pollution and resource use," says Daniel J. Dudek, senior economist for the Environmental Defense Fund (EDF). From a very different point on the political spectrum, John Shanahan, environmental policy analyst for the Heritage Foundation, a conservative think tank, adds: "By harnessing the power of the markets, we will be able to minimize pollution and maximize protection of the environment in a way that will not place undue burdens on the nation's economic growth. It's a win-win situation."

Lest it be thought that all this feel-good talk is just wishful thinking, it should be kept in mind that it is based on a no-nonsense fact

about capitalism: Markets respond to price signals. If a resource, whether it be a barrel of oil, a patch of Louisiana swamp or old-growth forest, or a breath of fresh air, is priced to reflect its true and complete cost to society, goes the argument, markets will ensure that those resources are used in an optimally efficient way, reducing environmental destruction.

Conversely, the argument continues, reckless exploitation of resources and heedless pollution have been encouraged so far because the prices of environmental goods and

services have failed to reflect their true costs. "If we can enact policies that adjust prices so that they more accurately reflect all the costs associated with producing a particular pollutant or using a particular resource," says Robert Repetto, director of the economics program at the World Resources Institute (WRI), "then society will make better decisions."

To date, free-market environmentalism has been tried on a limited regional basis. Many communities, for example, are now instituting user fees for solid-waste disposal and water use that more accurately reflect the true cost of these resources. These initial efforts have met with some success, and they have opened the way to broader initiatives to control sulfur emissions from electric power plants and overgrazing on federal rangelands.

Still, some environmentalists recoil from the notion of selling a "right" to pollute. "It goes back to the idea that we should be punishing industry for past sins instead of encouraging them to be better citizens in the future," says Dudek. And even the most ar-

dent supporters of the approach acknowledge that any sudden change in prices to reflect "true" costs would send disastrous shocks through the economy. "Certainly, no one advocates going to such a system overnight," says Repetto. But he and his colleagues insist that "we must begin moving towards such a system if we want to have real environmental progress in the decades ahead."

The movement toward free-market environmentalism was born out of frustration with the failure of existing environmental laws, including the Clean Air Act and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), to produce the hoped-for improvements in the nation's environmental quality. "Most of the major environmental acts have not accomplished what they were intended to do," says Roger C. Dower, director of WRI's climate, energy, and pollution program.

These landmark pieces of legislation, passed in the aftermath of the first Earth Day in 1970, rely on what most people now disparagingly refer to as command-and-control mechanisms to mandate pollution control. These take two forms: Either the government specifies the technology an industry or factory must use to control pollution, or it sets an emission-rate cap that all pollution sources must meet regardless of the relative cost to each source.

A 1991 policy study sponsored by then-Senator Timothy E. Wirth and the late Senator John Heinz concluded that, "while command-and-

control approaches can be effective in reducing pollution output, they tend to impose relatively high costs on society because some unnecessarily expensive means of controlling pollution will be used." The study also found that command-and-control approaches have stifled technological innovation because there is little incentive for a firm to develop cost-effective technologies that could cut pollution to levels lower than required.

Looking to the market. According to the new cadre of free-market environmentalists, market-based approaches can do better. The most far-reaching example to date is embodied in the acid rain legislation President Bush signed into law as part of the 1990 Amendments to the Clean Air Act. This landmark bill, created with the help of several environmental organizations, institutes a market for tradable emissions allowances that the Environmental Protection Agency and the power industry project will save utilities about \$1 billion a year while cutting sulfur dioxide emissions by more than half.



Underpriced? "External" costs of logging in this national forest were overlooked.



Under the new law, set to take effect in 1995, each utility will receive permits to release an amount of sulfur dioxide based on the industry's historical average release, with utilities that release higher-than-average pollution getting fewer release permits than needed to cover their historical emissions and cleaner-than-average utilities getting more. Every utility's allotment will go down each year, and by the late 1990s, virtually all utilities will face emissions limits below their current levels. By the year 2000, total emissions will be reduced to 8.95 million tons a year, some 10 million tons a year less than today.

A utility will be able to comply by whatever means it finds most economical: developing new technology, switching to cleaner fuels, investing in energy conservation, or buying extra emissions permits from cleaner utilities. If a particular utility decides to invest in new technology that reduces its emissions below the mandated level, it can recoup its investment by selling unused credits. "Utilities that continue to pollute must pay for the privilege of using the atmosphere's waste disposal capacity, while those utilities that reduce pollution get rewarded monetarily for their investment," says Dudek.

This approach is expected to reduce overall emissions more quickly than the schedule requires because it rewards early investment in new technology: The earlier a utility meets or exceeds the final standard, the more opportunity it will have to sell unused credits to other utilities, realizing a return on its investment. As a result, analysts expect that utilities will emit 3 million to 5 million tons less sulfur dioxide than allowed during the first 5 years of the program. The utilities themselves, according to Jeremy Platt, manager of fuel and clean air projects at the utility-funded Electric Power Research Institute, are "extremely enthusiastic about emissions trading."

Pollution permits that can be bought and sold are one way to attach a cost to polluting. Another is to impose a pollution fee equal to the damages that result from overuse of the resource—landfill space, for example. Most households in the United States pay for trash collection through property taxes, and the fee is the same regardless of how much trash a household puts out on the sidewalk. This discourages recycling efforts because a household has no financial incentive to reduce its output of trash. A 1988 study by Repetto, Dower, Robin Jenkins, and Jacqueline Geoghegan at WRI estimated that pay-by-the-can charges ranging from 60 cents to \$1.12 per 32-gallon trash can, combined with curb-side recycling, would cut \$1.5 billion annually from the nation's garbage bill. Many municipalities have already taken the hint and instituted such programs.

Is the price right? Schemes like these put a price tag on an environmental quality (the planet's disposal capacity, say, or the cleanli-

ness of air and water) that previously had no cost—at least no cost that showed up on corporate books. Other resources have long been in the marketplace, but at prices the new environmental economists say don't reflect true costs. An oft-cited case is the price that the federal government charges ranchers for grazing cattle and sheep on Western public grasslands. Approximately 30,000 ranchers now pay \$1.86 a month to graze a cow and calf on federal land. But according to John Duffield, an economist at the University of Montana, grazing rights on private lands adjacent to federal tracts go for an average of almost \$9 per cow per month. As a result, federal grasslands are overgrazed while private lands are underutilized.

Other resources, such as water in the Western states and timber, are underpriced, environmental economists argue, because of

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government subsidies, for example for irrigation and the construction of logging roads. But the market is also skewed, say these economists, because other costs never enter the accounting. Besides the expense of building logging roads, says Bruce Cabarle, an economist at WRI, cheap logging concessions force society to bear the cost of repairing damaged stream and river banks, restocking fisheries depleted by runoff from logged areas—and the less tangible costs of lowered recreation value or ecosystem health.

Economists call these indirect costs externalities, because the costs are outside of, or external to, the price. Most of the policies of free-market environmentalism are actually aimed at "internalizing" externalities. "The idea is that if you can add in all these hidden costs, you give consumers a better idea of the consequences of their actions," says Alan Krupnick of Resources for the Future. Tradable permits, pollution fees, and energy taxes are final steps in that direction.

Going further isn't easy, however. One problem is putting a price on all the externalities associated with a resource. In the case of timber, for example, it is straightforward to calculate the cost of logging roads. "But how," asks Faye Duchin, director of the Institute for Economic Analysis at New York University, "do you accurately determine the value of the lost recreational opportunities,

increased erosion, and reduced biodiversity that also accompany logging? In most instances, with our ignorance about the way the natural world works, the prices you would get would be totally arbitrary."

Nevertheless, researchers are trying to get ballpark figures for external costs. For example, Costanza, Stephen Farber at Louisiana State University, and Judith Maxwell at Ohio State University tried to reckon the true value of swampland on the Louisiana coast, currently priced between \$200 and \$400 per acre. "If you consider recreational value, storm protection, fisheries output, and trapping, you get a real cost of between \$2400 and \$17,000 per acre," says Costanza. Similarly, the U.S. Army Corps of Engineers estimated that placing off limits to development a wetlands complex outside Boston Harbor saves the city \$17 million a year in flood damage alone.

Then there is the very real political problem of repricing resources. The Clinton Administration, for example, was recently stymied by congressional interests when it proposed raising federal fees for grazing. Or take energy, which virtually all economists agree is laden with external costs. Harold M. Hubbard, who is now retired from Resources for the Future, estimated that the cost of defending Persian Gulf shipping lanes amounts to \$15 billion a year, which translates into a \$23.50 per barrel externality on imported oil. Other externalities on all energy use, including the cost of corrosion, crop losses, and human illness, add \$100 billion to \$300 billion to society's hidden energy bill, according to Hubbard.

Society bears these costs in the form of higher income taxes, health care premiums, and food prices instead of in the price of a gallon of gas or kilowatt-hour of electricity. As a result, say many economists, the average U.S. resident drives too much and uses too much electricity. But internalizing these externalities would more than quadruple the cost of gasoline, something advocates agree is out of the question politically.

And even if all prices were set—accurately—to include all environmental costs and consumers everywhere began making better decisions, that still wouldn't be a panacea for the world's environmentally related problems. "You'd still have the problem of distribution of resources among the people of the world alive today and future generations, and you'd still have the problem of scale, that is, how big can the world's economy get and still be supported by the ecosystem," says Herman Daly, senior economist at the World Bank and one of the founders of environmental economics. Adds Paul Christensen, an economist at Hofstra University, "Sure, we have to get the prices right and all that, but it's only a start if we truly want to live on this planet in a sustainable manner."

—Joe Alper